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09/436,620	11/09/1999	BRUCE E. JOHNSON	SVX-P001	6904

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EXAMINER	
LEVITAN, DMITRY	

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2662	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/436,620	Applicant(s) JOHNSON ET AL.	
	Examiner Dmitry Levitan	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-126 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-11,18-27 and 33-49 is/are rejected.

7)☒ Claim(s) 12-17,28-32 and 50 is/are objected to.

8)☒ Claim(s) 51-126 are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 12 January 2000 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore,

a. the arrangement connectable at points within the hub and between at least two different pairs of stations must be shown or the feature(s) canceled from the claim(s)

b. stations connected with other stations in one lobe of the main loop must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to, because abbreviations or acronyms LIP, HSSDC, JBOD are cited throughout the specification without explanation. Applicant should provide a full explanation for the acronyms at least at their first occurrence in the specification. Abbreviation LIP was introduced on page 8 of the specification and explained only on page 10.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 27, 42-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claim 27, how to verify of Fibre Channel compliance;

Regarding claim 42, how to invalidate Fibre Channel characters;

Regarding claim 43, how to identify isolate the invalid Fibre Channel characters;

Regarding claim 44, how to indicate a defect associated with invalid Fibre Channel characters;

Regarding claim 45, how to provide a recommendation to check or replace a particular lobe.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 46, it is unclear what "two different pairs of the stations" means, will three stations (A, B and C), communicating with each other, considered as three different pairs: A/B, B/C and A/C.

Regarding claims 1 and 46, it is unclear what "operating status of the system" means.

7. Claims 2-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2, 7, 10, it is unclear what "ordered set" means, is it a set of monitored stations, a set of monitored parameters or a set of LIP commands.

8. Claims 40-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 40 and 41, it is unclear what "transition density of the digital data" means, is it a connection speed or some parameters to reflect the burstiness of the traffic.

9. Claims 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 22, it is unclear what "station being physically receivable in one of the ports" means, and what "receiving a station in a port" means.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 18, 19-21, 26, 27, 33-37, 40-43, 46, are rejected under 35 U.S.C. 102(b) as being anticipated by Dawson (US 5,390,188).

Regarding claims 1 and 46, Dawson teaches in a hub (two connected concentrators 910 and 920 on Fig. 11 and 25:1-5) configured for interconnecting stations (stations 950, 955, 960, 965 and 970 on Fig. 11 and 25:13-27) as a part of a digital system where digital data flows between the stations (packets 25:16-18) based on operational status of the system (1:56-66), the improvement comprising:

An arrangement forming a part of the hub (NMS of the network 25:33-37) and connectable at points within the hub (port logic units 921, 924, 922, 932 and 930 on Fig. 11 and 24:65-67 and 25:1-6) and between at least two different pairs of the stations (stations 950, 955, 960, 965 and 970 on Fig. 11) for monitoring certain characteristics of said data (generic loss metric values on Table 2) in a way which provides for non-invasive identification (monitoring messages entering and exiting each port 3:30-41) of one or more conditions (1:56-66), related to the operational status of the system.

Regarding claim 18, Dawson teaches data flows between the stations (Table 2) using a loop, which interconnects stations (Fig. 11) so as to define the points and the condition is a defect (fault 25:27-40) within the system and the arrangement (procedures 1-4 26:1-37) is to

configured for monitoring certain characteristics of the data (generic loss metric) at the points to provide non-invasive location of the defect.

Regarding claim 19, Dawson teaches monitoring said point in sequential time (Fig. 7 and 14:17-57) such that only one of the points is monitored at a time (inherently part of the system, because Dawson teaches monitoring each port logic 14:17-23).

Regarding claim 20, Dawson teaches monitoring said point in a predetermined interval (14:17-39).

Regarding claim 21, Dawson teaches monitoring two or more points at a time (Table 2).

Regarding claim 26, Dawson teaches analysis means (NMS on Fig. 4 and 11:27-67, 12:1-10) for analyzing the digital data obtained at said points (Table 2) in order to establish the certain characteristics.

Regarding claims 33-35, Dawson teaches beaconing means (NMS 28:50-62) to identify a defect location on the hub adjacent to the defective station connection port (Table 2) and the beacon indication is provided at a position remote from the hub (NMS 5 on Fig. 2 and 8:30-32).

Regarding claims 36 and 37, Dawson teaches each data frame including a CRC and checking CRC of data frames to identify the corrupted frames (12:11-25) origination (source address loss metric 16:21-34).

Regarding claims 40 and 41, Dawson teaches the hub as a Fibre Channel hub (FDDI 6:47-62) to analyze digital data violating a predefined transition density (15:24-55) and identify the violations of the transition density by the digital data (16:9-15).

Regarding claims 27, 42 and 43, Dawson teaches using of Fibre Channel characters (FDDI standard 9:21-45), their invalidation (use of CRC 12:11-25) and isolating the invalid characters to origination at certain points (source address loss metric 16:21-34).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dowson.

Dowson substantially teaches all the limitations of claims 1, 42, 43, 44 and 45.

Dowson does not teach connecting stations in a lobe to the same port and validating the connection between the hub and the lobe.

Official notice is taken that connecting stations in a lobe to the same port and validating the connection between the hub and the lobe is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add connecting stations in a lobe to the same port and validating the connection between the hub and the lobe to the system of Dowson to improve the system operation with several stations connected in a lobe.

13. Claims 2-11, 22-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson in view of Brewer (US 6,188,668).

Dawson substantially teaches all the limitations of claims 1-3, 5-9, 22-25.

Regarding claims 2, 3, 7-9, Dawson does not teach using ordered set detection including LIP, LIP7, LIP8, idle character, SOF, ARB and OPN.

Brewer teaches using ordered set detection (2:20-40) including LIP (2:24), LIP7 (2:26), LIP8 (2:26-35), idle character SOF, ARB and OPN (all part of ANSI X3.230 standard 1:22-37) to isolate a fault (1:4-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using ordered set detection including idle character, LIP, LIP7, LIP8, SOF, ARB and OPN of Brewer to the system of Dawson to improve the system compatibility with ANSI X3.230 standard.

Regarding claims 4, 10 and 11, Dawson does not teach using predetermined sequence/counting specified ordered sets to indicate on hub an operational status of the loop.

Brewer teaches using predetermined sequence/counting specified ordered sets (three consecutive LIP F8 ordered sets 5:30-55) to indicate on hub (3:49-64) an operational status of the loop (port failure 5:43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using predetermined sequence/counting specified ordered sets to indicate on hub an operational status of the loop of Brewer to the system of Dawson to improve the system reliability.

Regarding claims 5 and 6, Dawson does not teach using detection LIP F8 transmitting stations and bypassing any station transmitting LIP F8.

Brewer teaches using detection LIP F8 transmitting stations (2:20-40) and bypassing any station transmitting LIP F8 (5:30-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using detection LIP F8 transmitting stations and bypassing any station transmitting LIP F8 of Brewer to the system of Dawson to improve the system station bypassing capabilities.

Regarding claims 22 and 25, Dawson does not teach using stations selectively and individually bypassable to prevent insertion of a defective station.

Brewer teaches using stations selectively and individually bypassable (4:52-64) to prevent insertion of a defective station (3:49-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using stations selectively and individually bypassable to prevent insertion of a defective station of Brewer to the system of Dawson to improve the system reliability.

Regarding claim 23, Dawson does not teach bypassed stations to transmit data while bypassed.

Brewer teaches bypassed stations to transmit data while bypassed (5:30-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add bypassed stations to transmit data while bypassed of Brewer to the system of Dawson to improve the system reliability.

14. Claims 38 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dowson in view of Lin (US 6,081,847).

Dowson substantially teaches all the limitations of claims 38, 46 and 47 including detection of stations 32:56-67 and 33:1-10.

Dowson does not teach identifying stations by ALPA and establishing a preliminary system map by monitoring the ALPA present at the points using ARB and OPN commands.

Lin teaches identifying stations by ALPA (ALPA 3:13-27) and establishing a preliminary system map by monitoring the ALPA present at the points (initialization process 2:1-21) using ARB (1:53-58) and OPN (2:36-44) commands.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add identifying stations by ALPA and establishing a preliminary system map by monitoring the ALPA present at the points using ARB and OPN commands of Lin to the system of Dowson to improve the system station identification and mapping.

15. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dowson and Brewer.

Dowson and Brewer substantially teaches all the limitations of claims 1, 22, 23 and 24 including transmitting LIP sequence other than LIP F8.

Dowson and Brewer does not teach transmitting LIP F7 as test data.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add transmitting LIP F7 as test data to the system of Dowson and Brewer as a design choice, because other LIP sequences except LIP F8 will work in the system as well.

16. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dowson and Lin. Dowson and Lin substantially teaches all the limitations of claims 1, 36, 38 and 39 including using ALPA to identify defective stations.

Dowson and Lin do not teach connecting stations in a lobe to the same port and using ALPA to identify a defective station.

Official notice is taken that connecting stations in a lobe to the same port is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add connecting stations in a lobe to the same port and using ALPA to identify a defective station to the system of Dowson and Lin to improve the system operation with several stations connected in a lobe.

Allowable Subject Matter

17. Claims 12-17, 28-32 and 50 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lin	US006081847A	System and method for efficient initialization of a ring network.
Brewer	US006188668B1	Automatic isolation in loops.
Dawson	US005390188A	Method and apparatus for measuring and monitoring the performance within a ring network.
Pearce	US005436624A	Communication system with monitoring means.
Chan	US005751715A	Accelerator fiber channel hub and protocol.
Berman	US006118776A	Methods and apparatus for fiber channel interconnection of loop devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

DL

Dmitry Levitan
Patent Examiner.
01/02/04.

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